

## REMARKS

Claims 1, 10, 18 and 20 have been rejected under 35 USC § 102(b) as being anticipated by Japanese patent abstract '290. This rejection is respectfully traversed.

These claims variously recite method and apparatus including “a pair of electrodes spaced apart across a gap,” and “applying alternating ionizing voltage to the electrodes for generating positive and negative ions within the gap between electrodes,” and “selecting the frequency of alternating ionizing voltage to establish the positive and negative ions substantially centrally within the gap,” and “the source means is capacitively coupled to the electrode means.”

These aspects of the claimed invention establish ions within a gap between a pair of ion-generating electrodes in response to ionizing alternating voltage applied thereto at a frequency for which generated ions do not have sufficient time to cross the gap, and therefore concentrate within the gap between the pair of electrodes. In view of the mobility of air ions in a selected gap, typical frequencies for such operation is of the order of several kilohertz, not merely line frequencies of 50-60 hertz.

These aspects of the claimed invention are not disclosed or even suggested by the Japanese abstract '290 which, as this reference is currently understood,

operates on one electrode probe 34 spaced by gap H from the film or charged object 35. A copy of a translation of the description of figure 14 referenced by the Examiner, is believed to be accurate and is submitted herewith as other information in an Information Disclosure Statement for the Examiner's convenient review. And, contrary to the Examiners analysis of the reference, there is no pair of electrodes to form a gap since object 35 is a film that is not characterized as an electrode. Nor is the calculated operating frequency of 50 Hz adequate to limit transit time across the gap of the generated ions that are to be concentrated in the gap. To the contrary, it appears that the calculated optimum frequency relies upon a range L over which static on the film running at speed V can be eliminated (i.e., by generated ions *reaching* the film across the gap H). Such operation distinctly contrasts and essentially teaches away from Applicants' claimed invention.

In addition, since negative air ions are more mobile than positive air ions, and can more readily transit the gap H from the one electrode 35, a significant offset of ions of one polarity can be produced thereby that reach the film or charged object 35. The disclosure of Japanese patent abstract '290 introduces an additional power supply, or supplies, for biasing against such offset of ions that transit the gap H from the one electrode. This reference is therefore deficient of disclosure of the specific elements operating in the specific structure as claimed by

Applicants. Claims 1, 10, 18 and 20 are therefore submitting not to be anticipated by, but instead to be patentably distinguishable over, the Japanese abstract '290.

The Examiner's presumption of joint inventorship is correct.

Claims 4-9, 13-17, 21-23 have been rejected under 35 USC § 103(a) as being unpatentable over Japanese patent abstract '290 in view of Lee et al '307. This rejection is respectfully traversed.

These claims which variously depend from allowable independent claims are submitted to be allowable for that reason and for the additional limitations that further distinguish the structure and operation of the claimed invention over the cited references.

The deficiency of disclosure of Japanese patent abstract '290 is discussed in the above Remarks. And, Lee et al '307 discloses a system in which a high-frequency ionizing voltage is supplied to a single electrode of pointed or needle-like configuration. As is commonly known, extremely high field strength exists around the tip of a pointed electrode, and such high-frequency alternation and high field strength trap generated ions from moving any distance away from the electrode for harvesting.

Thus, merely combining Lee et al '307 with the deficient disclosure of Japanese patent abstract '290 in the manner proposed by the Examiner fails to establish even a *prima facie* basis from which a proper determination of

obviousness can be formed. It is therefore respectfully submitted that dependent claims 4-9, 13-17 and 21-23 are patentably distinguishable over the cited art.

Claims 2, 3, 11, 12 and 19 have been indicated to be allowable but are objectionable for depending from rejected base claims.

These claims have been amended to incorporate the limitations of the base claims and intervening claims, if any, and are now submitted to be allowable to Applicants.

Reconsideration and allowance of all claims are solicited.

Respectfully submitted,  
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ATTACHMENT:  
Information Disclosure Statement